

AMENDMENTS TO THE CLAIMS

1. (Currently amended) A modified recombinant *E. coli* or yeast host cell, which, in unmodified form, does not produce polyketides, which cell is modified to contain an expression system that comprises at least one nucleotide sequence that encodes a minimal modular or fungal polyketide synthase (PKS) capable of being expressed and an expression system that comprises at least one nucleotide sequence that encodes a holo acyl carrier protein (ACP) synthase, wherein the ACP synthase pantetheinylates said PKS and said ACP synthase is not associated with fatty acid synthesis,

said minimal PKS comprising a ketosynthase (KS) catalytic region, an acyl transferase (AT) catalytic region, and an ACP ~~[[activity]]~~ domain for a modular PKS or a fungal PKS.

2. (Canceled).

3. (Previously presented) The modified cell of claim 1 wherein said minimal PKS is the synthase for 6-methyl salicylic acid.

4. (Canceled).

5. (Original) The modified cell of claim 1 wherein said expression system for said minimal PKS and said expression system for said holo ACP synthase are present on separate vectors.

6. (Original) The modified cell of claim 1 wherein at least one of said expression systems is integrated into the host cell chromosome.

7. (Canceled).

8. (Currently amended) A modified recombinant yeast, *E. coli*, or plant host cell, which, in unmodified form does not produce polyketides, wherein the recombinant host cells is modified to contain either

a) at least a first and a second vector; said first vector containing a first selectable marker and a first expression system and said second vector containing a second selectable marker and a second expression system and optionally additional vectors containing additional selectable

markers and expression systems wherein said expression systems contained on said vectors are effective to produce at least a minimal ~~polyketide synthase (PKS)~~ PKS; or

b) at least one vector and a modified chromosome, said one vector containing a first selectable marker and a first expression system and said modified chromosome containing a second expression system and optionally additional vectors containing additional selectable markers and expression systems wherein said expression systems contained on said vectors in combination with said expression system on said chromosome are effective to produce at least a minimal PKS; and

c) a recombinant expression system for a holo ACP synthase capable of being expressed and effective in the pantetheinylation of said PKS;

wherein said minimal PKS comprising a KS catalytic region, an AT catalytic region, and an ACP ~~activity~~ domain for a modular PKS.

9. (Canceled).

10. (Currently amended) The cell of claim 8 which further contains an expression system for a cell-based detection system that comprises at least one nucleotide sequence that encodes a protein that is responsive to a polyketide ~~responsive target for a polyketide~~.

11. (Canceled).

12. (Currently amended) The cell of claim 8 which produces at least a minimal modular PKS and which contains

(a) a first vector containing a first selectable marker and a first expression system, wherein said first expression system comprises a nucleotide sequence encoding at least a first module of a ~~polyketide synthase (PKS)~~ PKS operably linked to a promoter operable in said cell; and

(b) a second vector containing a second selectable marker and a second expression system, wherein said second expression system comprises a nucleotide sequence encoding at least a second module of a polyketide synthase operably linked to a promoter operable in said cell.

13. (Currently amended) The cell of claim 12 wherein said first module is that of a first ~~polyketide synthase (PKS)~~ PKS and said second module is that of a second PKS, wherein said first and second PKS are different.

14. (Currently amended) The cell of claim 13 wherein said nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a protein having ketoreductase (KR) activity; or

wherein the nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a protein having KR activity and a protein having dehydratase (DH) activity; or

wherein said nucleotide sequence encoding at least a first or a second module further contains a nucleotide sequence encoding a protein having KR activity, a protein having DH activity and ~~[[an]]~~ a protein having enoylreductase (ER) activity; and/or

wherein said nucleotide sequence encoding at least ~~one~~ a first or a second module further contains a nucleotide sequence encoding a protein having thioesterase (TE) activity.

15-39. (Canceled).

40. (Currently amended) The cell of ~~claims 1, 16, 32, or 37~~, claim 1 or 16 wherein the holo ACP synthase is ~~derived from~~ native to *Bacillus*.

41. (Currently amended) The cell of ~~claims 1, 16, 32, or 37~~, claim 1 or 16 wherein the holo ACP synthase is EntD, GsP, or sfp.